



A L I C E

g r a v i t y

EPFL / ENAC / IA / ALICE
atelier de la conception de l'espace
spring semester 2008
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the london pavilion project

In the first semester of the accademic year 2007/2008 the ALICE students were asked to develop design proposals for a site reactive pavilion for the London Festival of Architecture in June 2008. (www.londonbiennale.org.uk).

A chosen scheme was selected at the end of the semester in Decemeber 2007 through a small design competition within the studio to establish a project team to carry forward the development of the pavilion towards fabrication during the second semester. The pavilion was then erected in London for the biennale's opening on June 20th. See brochure on Overflow.

One of the programmatic components for the pavilion was display. The specificities of the sites that the various pavilions were to engage were in accordance with the proposed route from the program of the London Festival of Architecture.

gravity

The studio started by probing gravity and its direct implications in the conception of architecture; gravity initially in a physical and spatial sense, and being observed later in the semester in its social, cultural and political consequences.

Two definitions of interest for gravity:

- ° The force of attraction, characterized by heaviness or weight (force), by which terrestrial bodies tend to fall towards the centre of the earth (physical).
- ° Gathering: a group of persons together in one place (social).

For instance, can we speak of gravity without the implications of terms such as: acceleration, velocity, mass, fall/impact, grounding, excavation, centre of gravity, relativity, relations, force (of attraction), weight/volume, structure, matter, material, downward, upward, air resistance, equilibrium, rest...?

chute libre

GRAVITY AT WORK

The first phase in the ALICE curriculum includes the fabrication of a “physical construct” based on explorations conducted through experiments. This physical construct was to “declare gravity at work.”

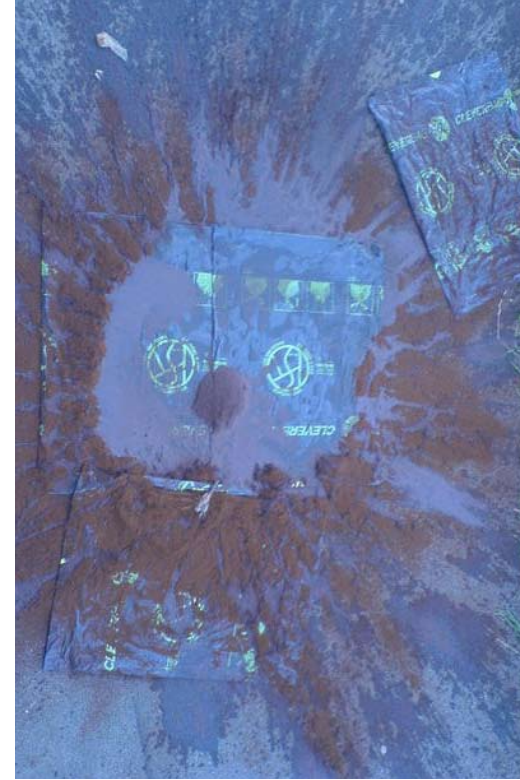






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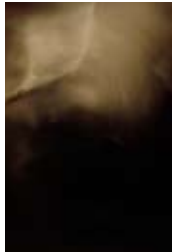
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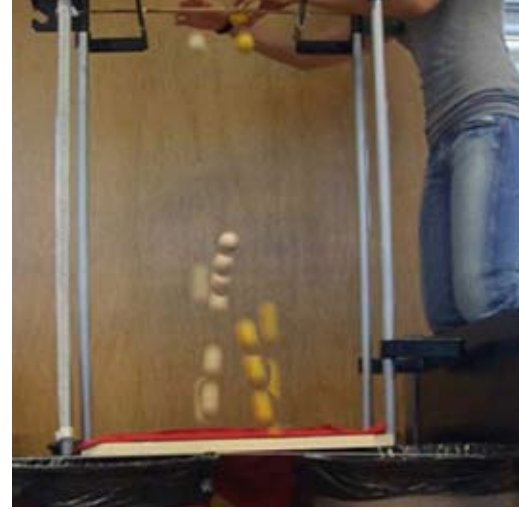


Physical experiments on gravity

from left:

Malaica Cimenti, Lila Held
Adrien Alberti, Sebastian Hefti
Konstantinos Dell'Olivo,
Ann Madlen Gefeller
Andreas Grubler, Sandro
Tonietti
Nicolas de Courten,
Christopher Tan





Physical experiment on gravity: two falling balls impact on textile under tension & Sequence drawings recording the balls in space.

Clio Gachoud, Minh-Luc Pham



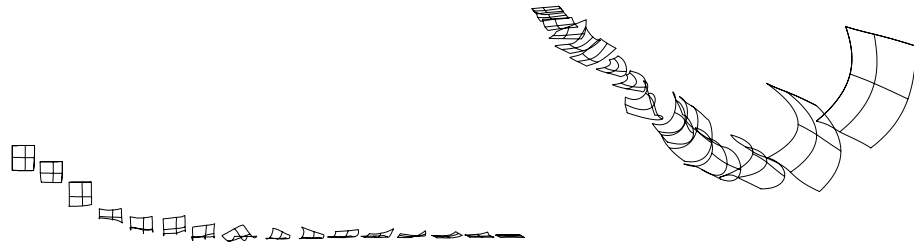
The gravitational impact on falling object and receiving ground was observed as spatial and formal conditions manifested in compressed moments of time.

Andreas Bellmann, Sandro Tonietti

DRAWING IN TIME

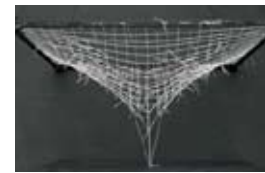
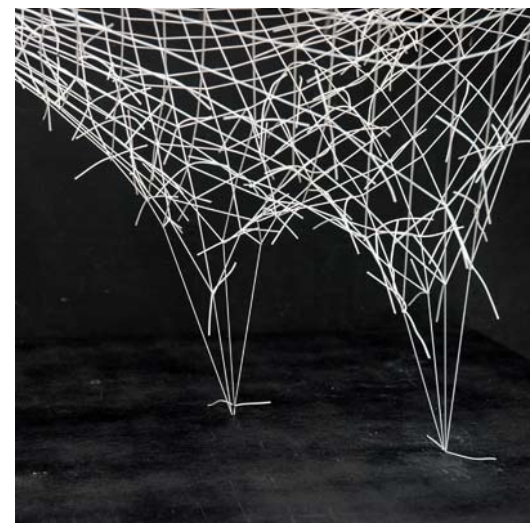
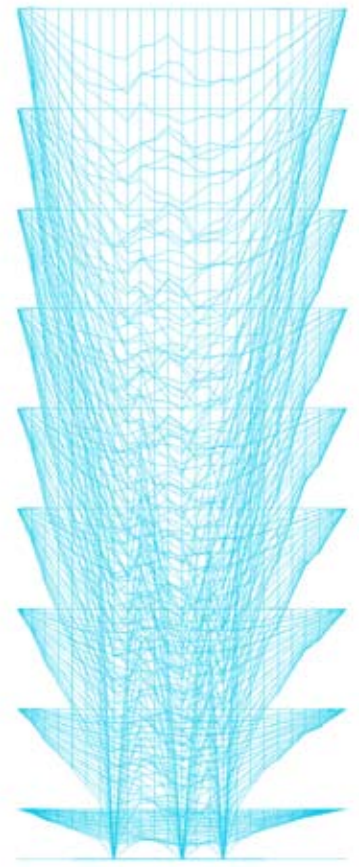
3-D software is implemented as a tool for analysis of spatial conditions and transformations in time. The parallel construction of a physical model and its counterpart in the digital realm fosters an understanding of structures and forces.

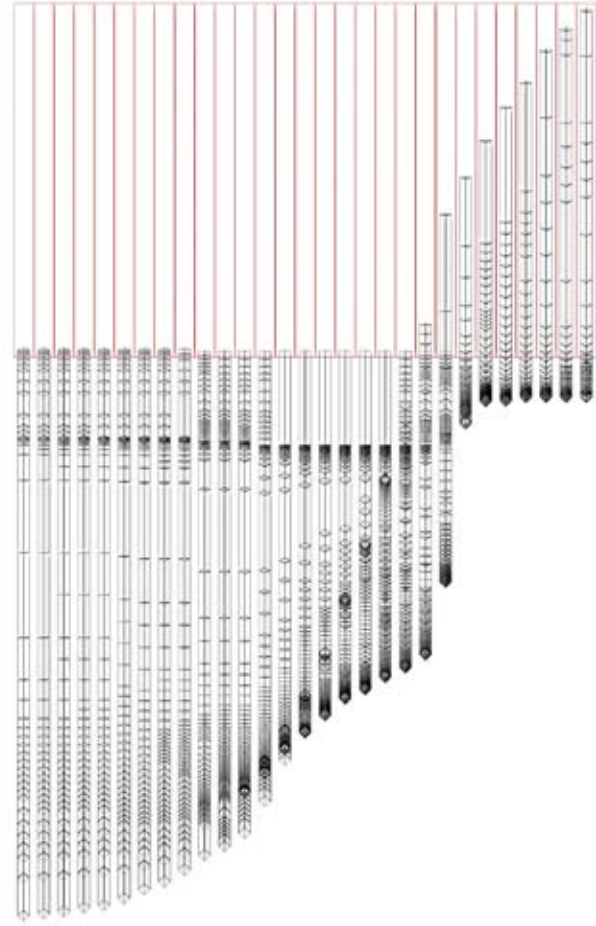
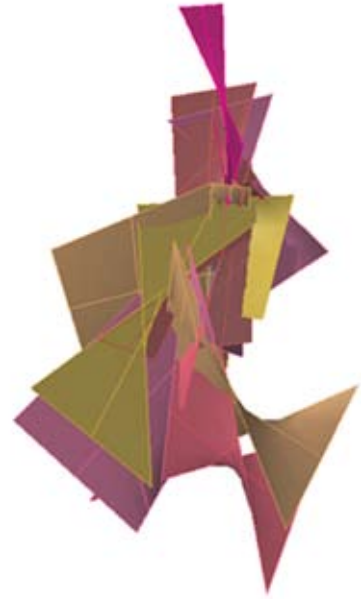
This project was generated through the tracking of a sheet of paper falling in space. The movements were recorded by 3 cameras and then reconstructed in 3-D software. The trajectories of the four cardinal points of the sheet led to a warped spatial construct, built in thin cardboard, its wrapped geometry locking its form in space and making it a structurally robust artifact.
Augusta Prorok, Bertrand Sauterel



This project investigates how, with an increasing upward force, an initial two dimensional lattice redistributes itself into three dimensional space with some local attachments.

Nicolas De Courten, Christopher Tan

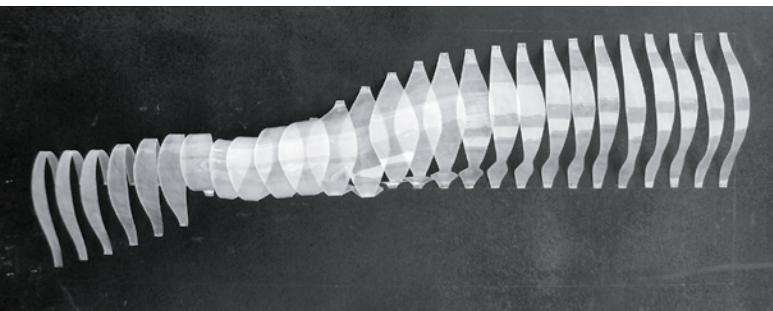
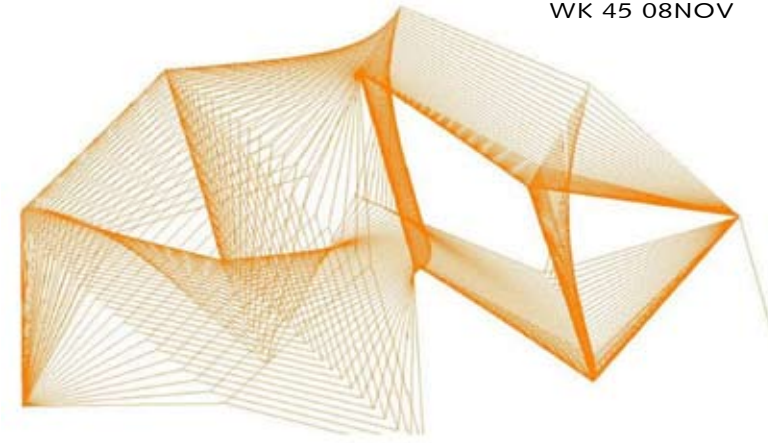




Explorations on how gravity impacts on form

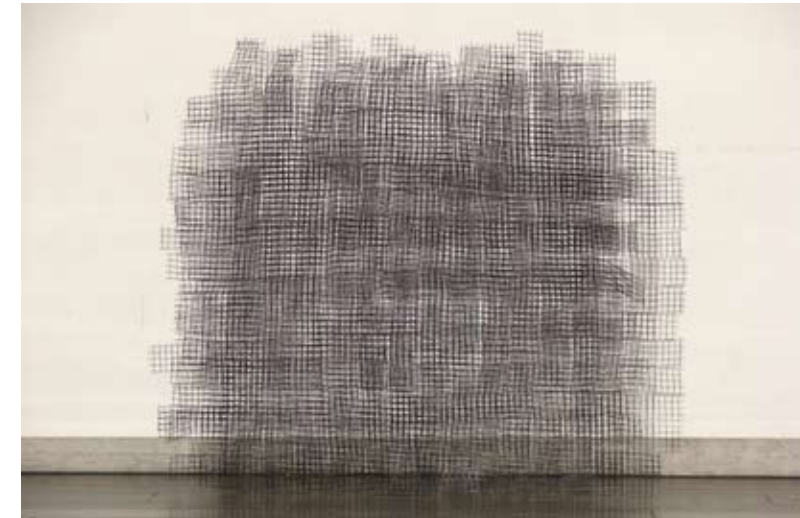
above:
Fatma Ben Amor, Aurélie Krotoff

below:
Clio Gachoud, Minh-Luc Pham



Analytical sections in drawing and model form of a first profane experiment: a dome of glue, poured over an inflated balloon, collapsed as the balloon was removed.

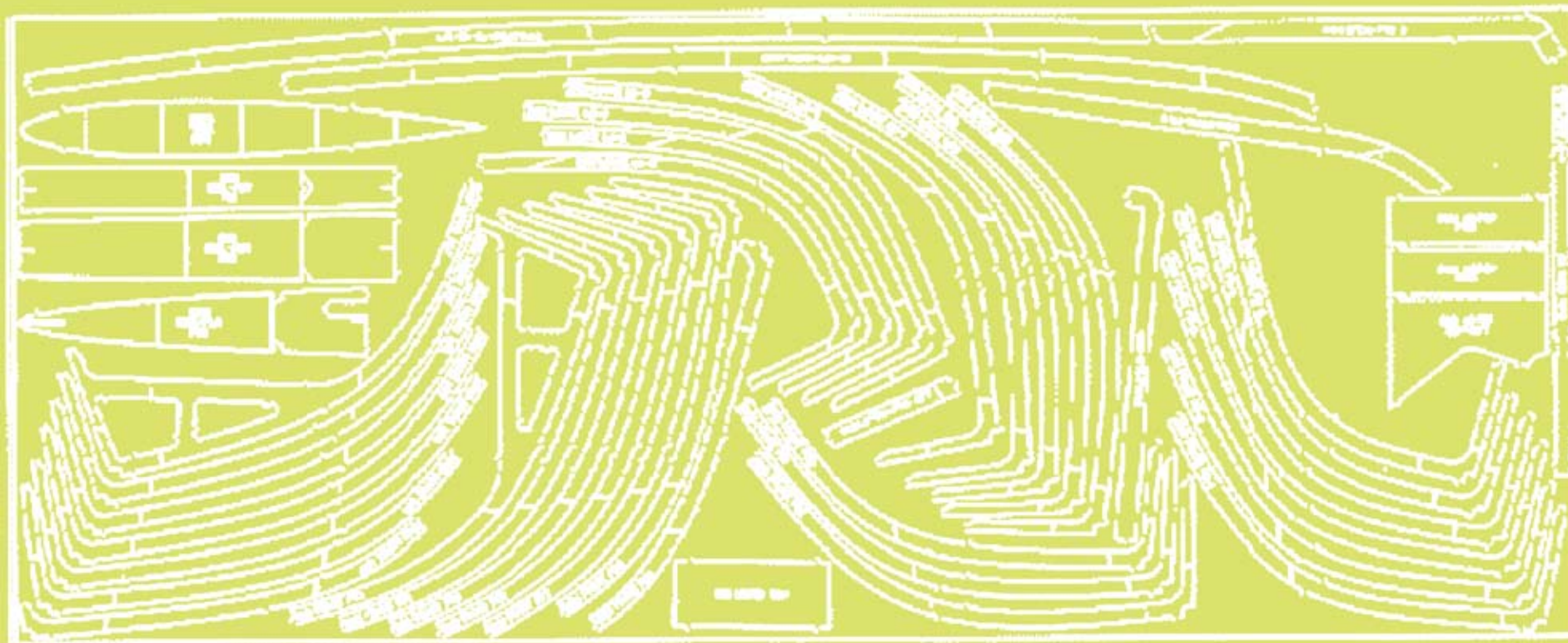
Aurel Martin, Mikael Monteserin

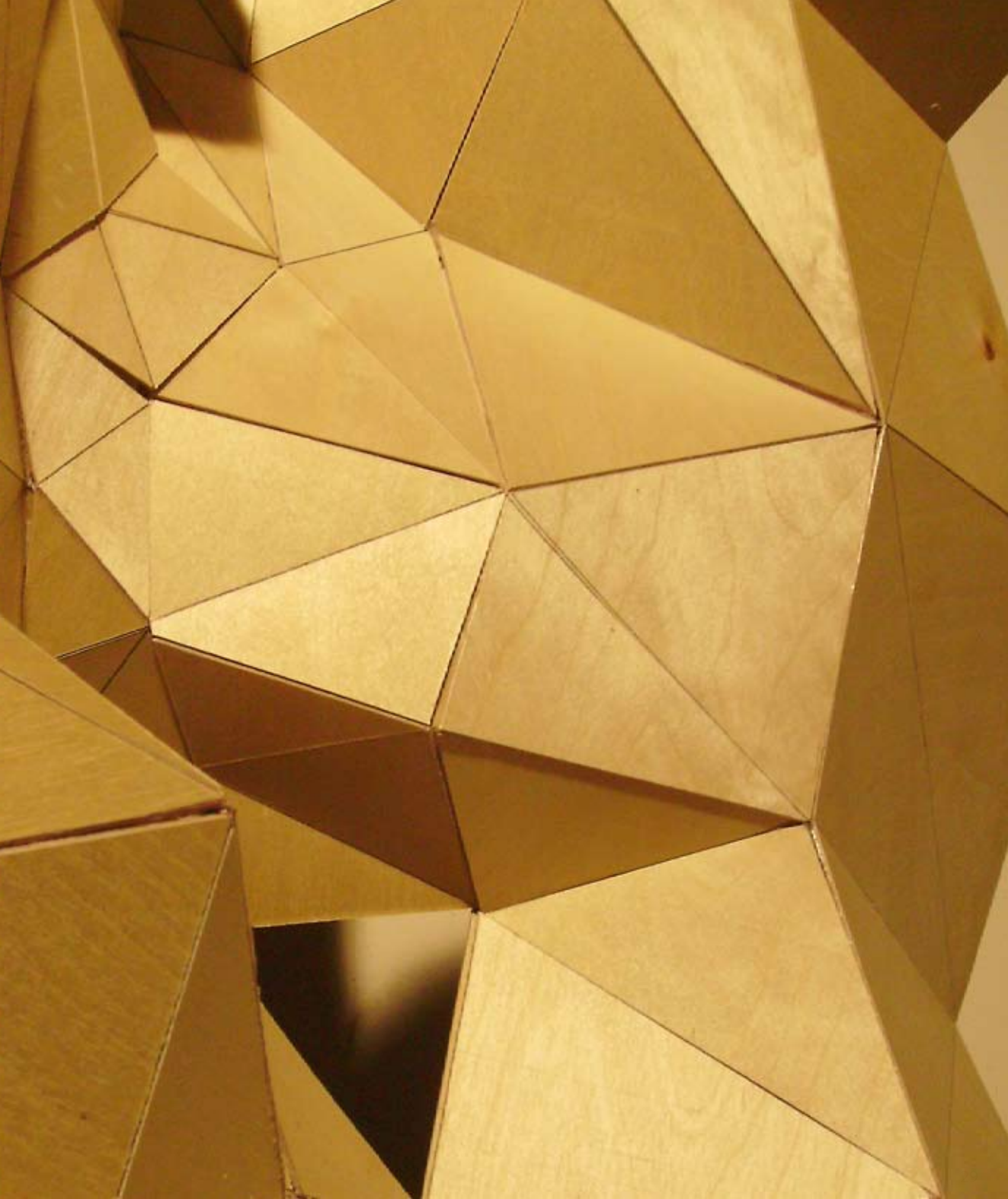


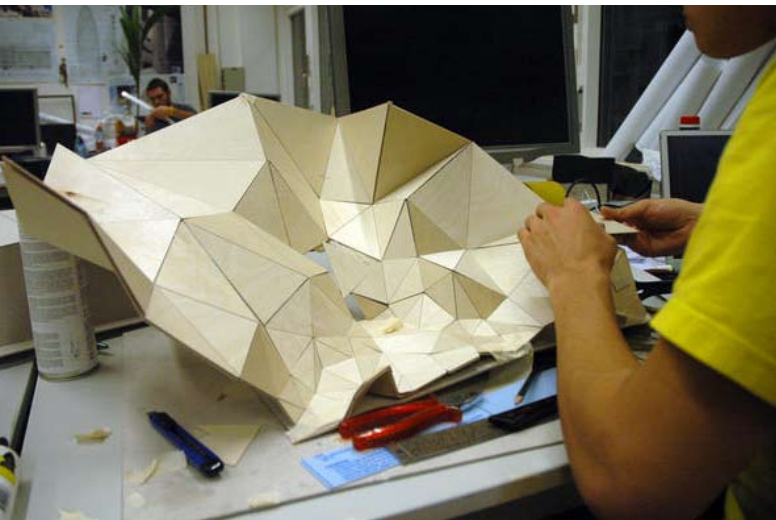
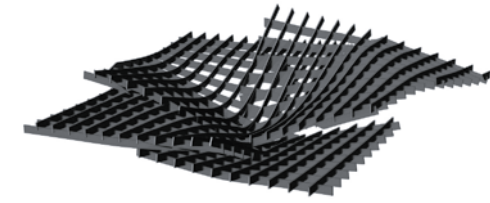
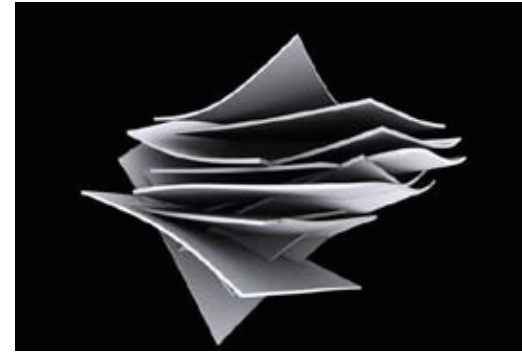
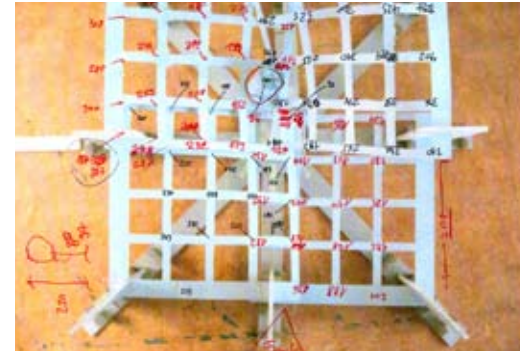
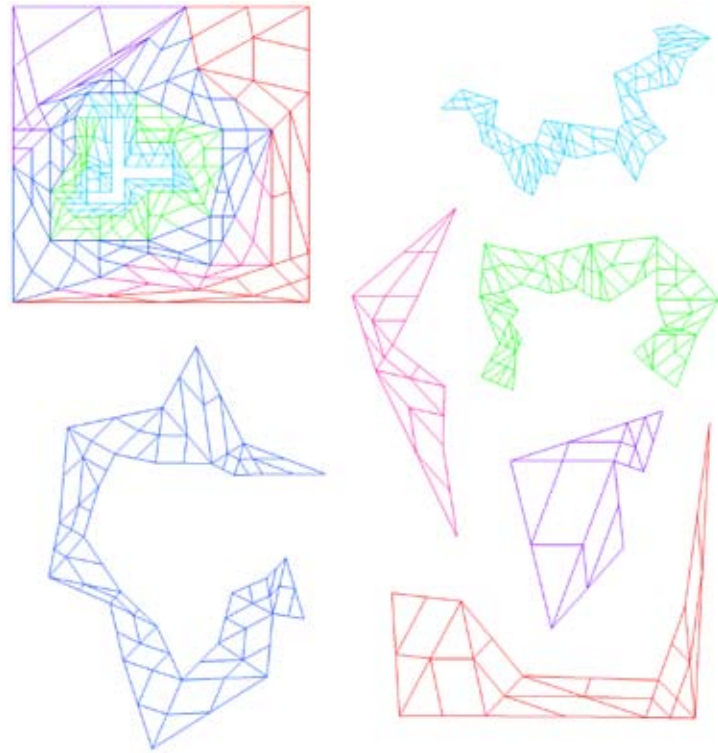
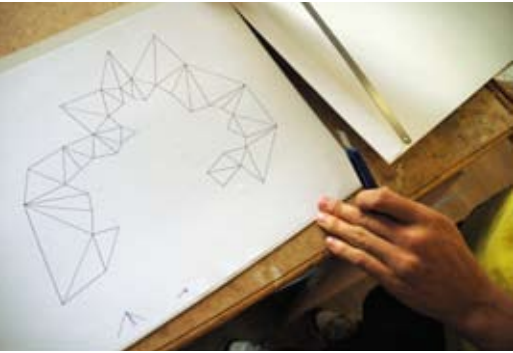
champ libre

A PHYSICAL CONSTRUCT DECLARING GRAVITY AT WORK

It is a core idea of the ALICE curriculum to work simultaneously in parallel realms—to develop a project in 3-Dsoftware and to test it constantly in physical models, or to draw while at the same time probing material qualities in one-to-one mock-ups. In this approach the design process is constantly challenged by catalyst “reactions” in the respective fields of production.







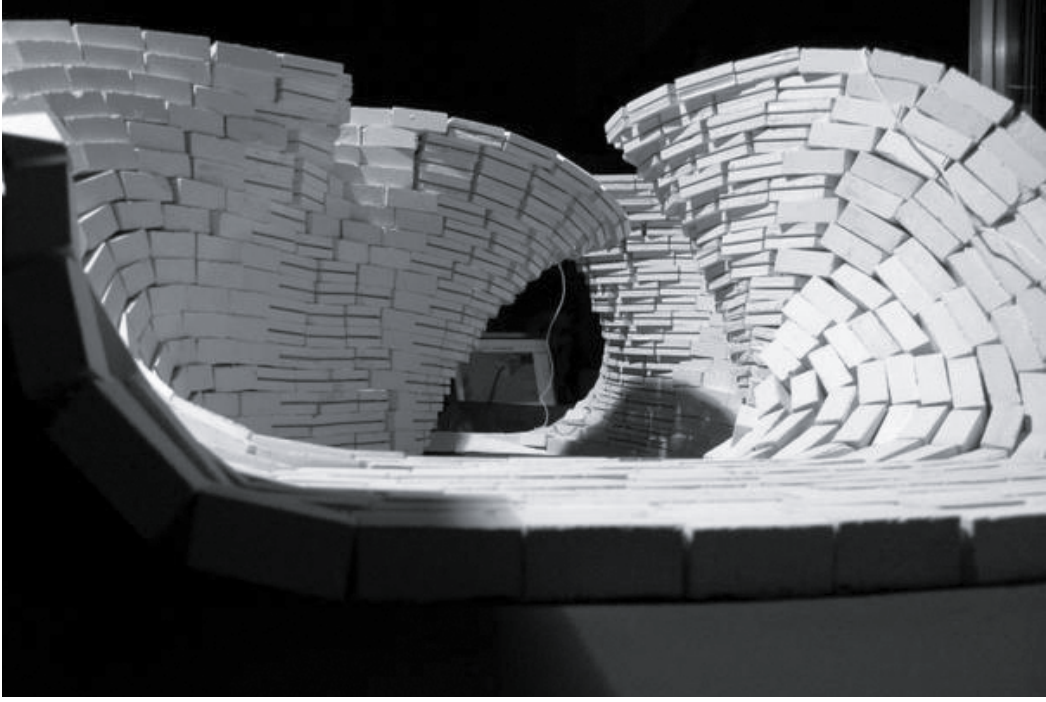
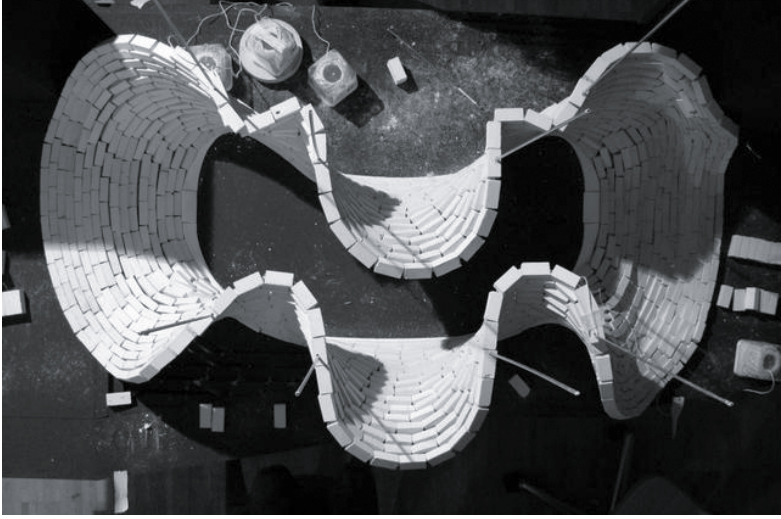
A structure that resists gravity by means of its geometry. Drawing of templates for the construction of the model.

Nicolas De Courten, Christopher Tan

This project proposes a physical representation of the spatial impact of a falling object on a series of receivers. In the absence of the falling object, the physical representation registers the temporal aspect of the event while disclosing new spatial encounters.

Adrien Alberti, Sebastien Hefti

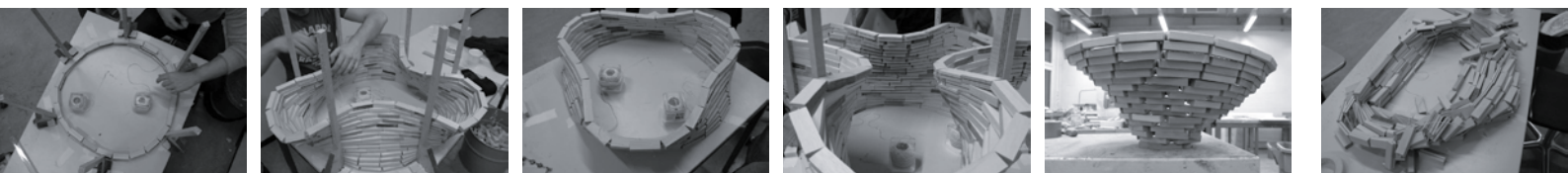




Gravity impacts on form. A hanging structure responding to tidal forces along an embankment. Wood structure connected by elastic strips.
Fatma Ben Amor, Aurélie Krotoff

This project is an attempt to reconsider the properties of a brick-wall by introducing a string or cable instead of the mortar commonly used for the joints between the individual bricks. In the place of adhesion gravity itself stabilizes the wall.

Alexander Hertel, Philipp Jakob

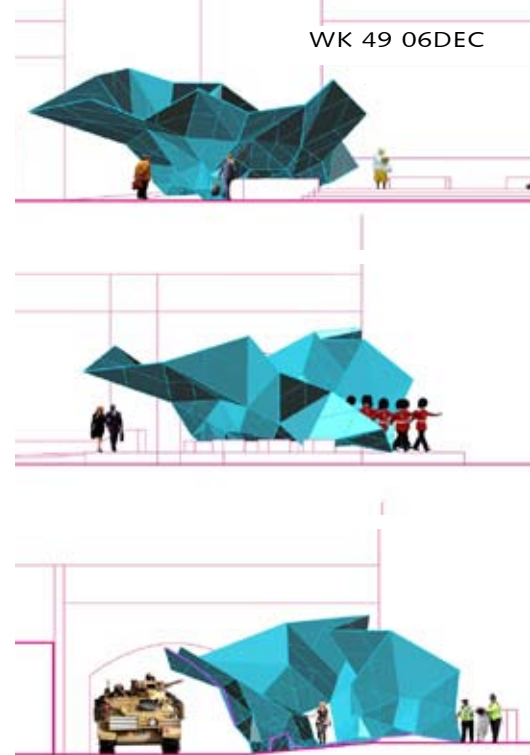
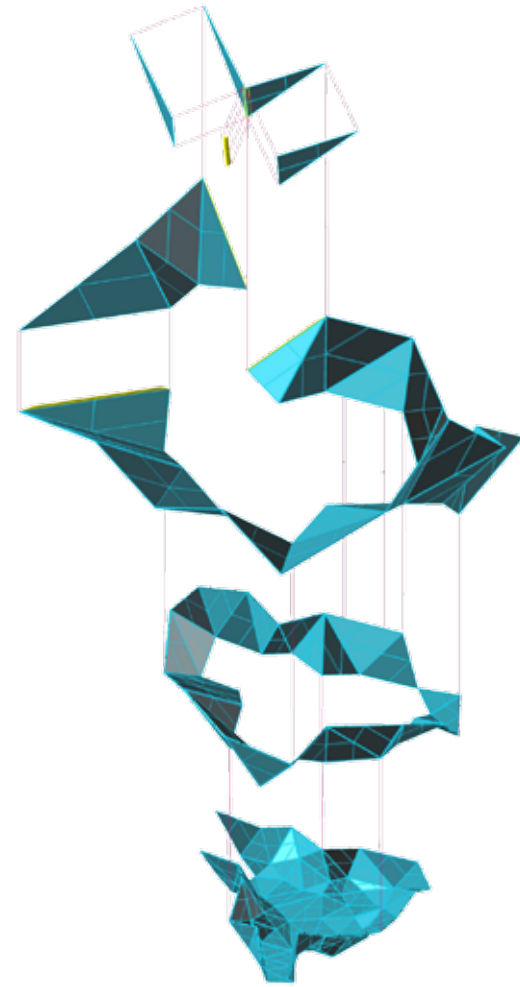


hors champs

FROM DESIGN DEVELOPMENT TO FABRICATION

The third phase in the ALICE curriculum tests, transforms, develops and materializes the initial ideas towards a concrete proposal for the pavilion. Scale, material, structure, program, construction details, fabrication and assembly are addressed.





What appears to be a simple triangulated object is in fact a structure consisting of bands, with a hierarchy between the different joints. The result is not a fully rigid structure but rather a partially flexible construct that resists gravity by means of its geometry.

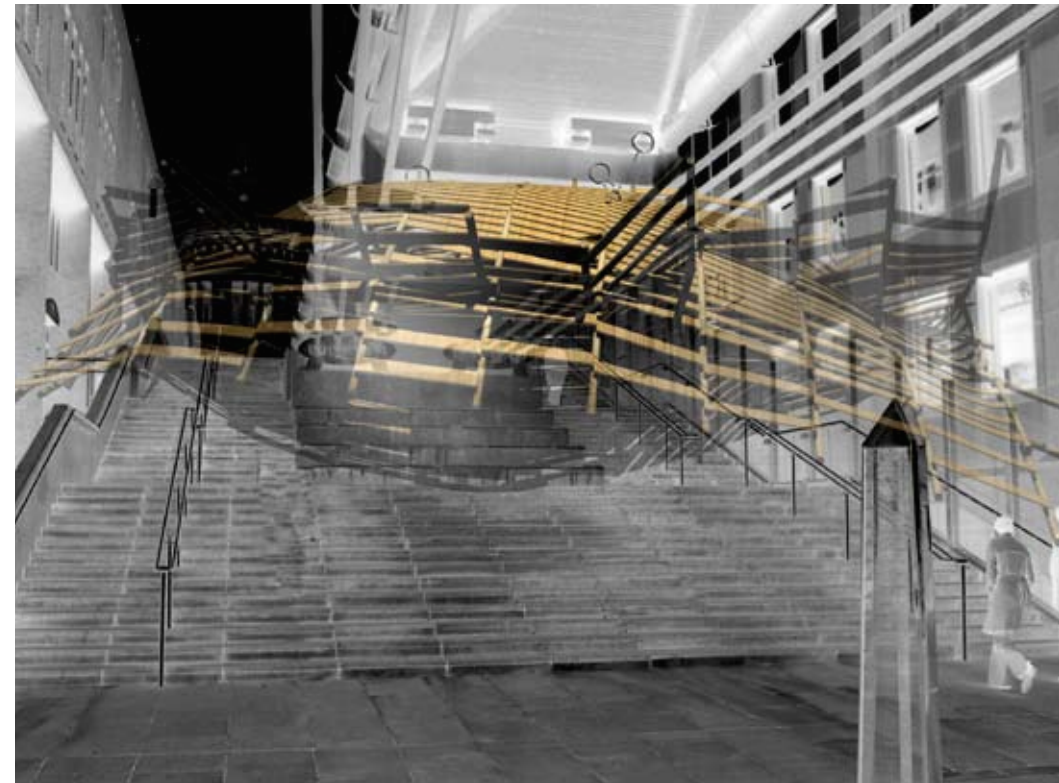
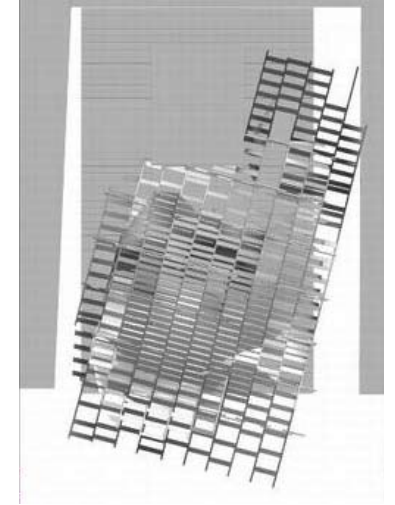
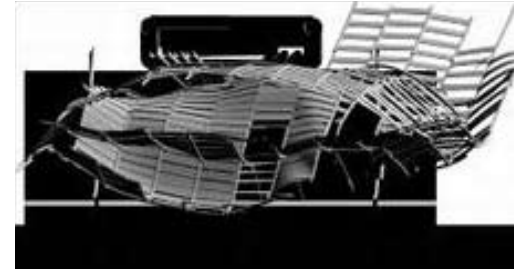
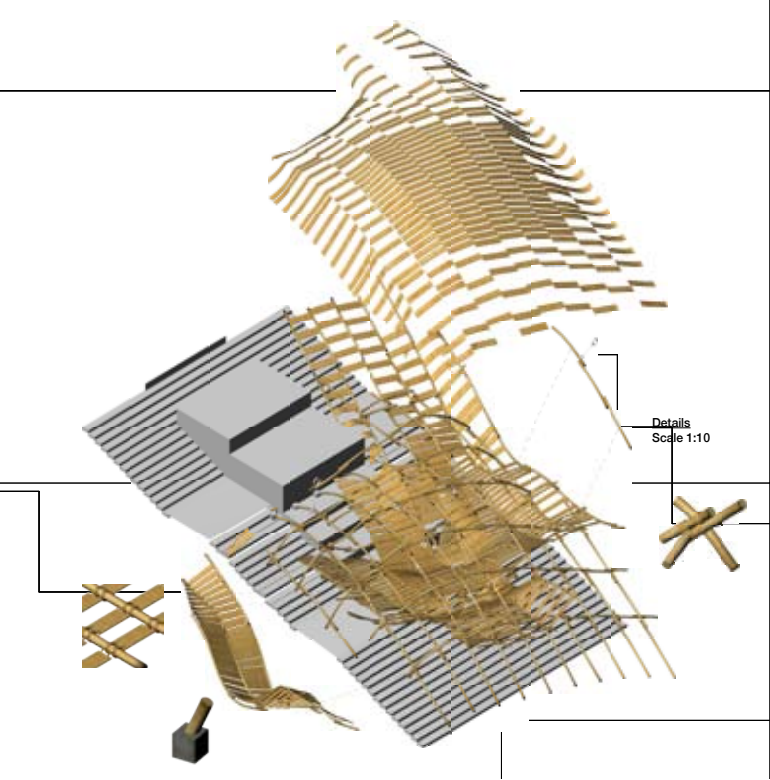
Nicolas De Courten,
Christopher Tan



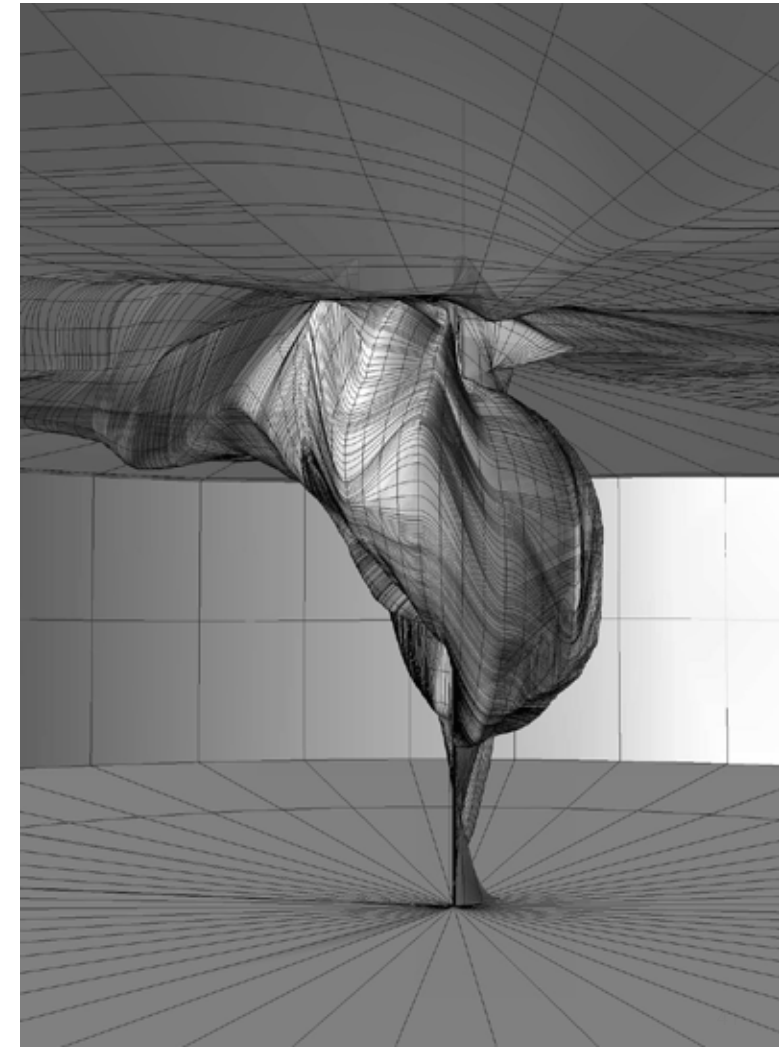
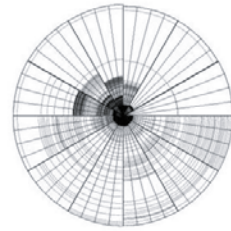
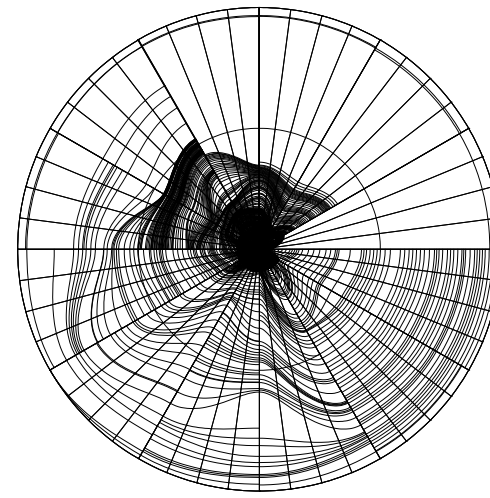
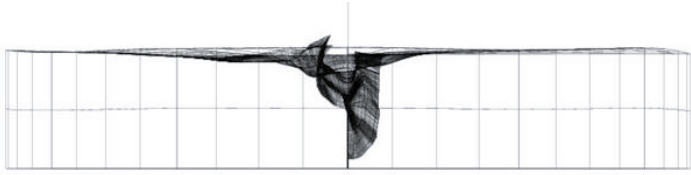
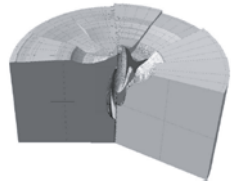
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This project and proposal for a pavilion below Millennium Bridge started off with a film sequence of balls impacting on a textile under tension. In the course of the development of the project, the focus shifted from the falling object towards the particular nature of the ground condition.

Clio Gachoud, Minh- Luc Pham



WK 51 19DEC



This project was selected by the jury at the end of the first semester. In an extensive discussion with the group, the decision was taken to directly work with the water surface of the river Thames.

Nathalie Egli, Auguste Michael, Andres Tovar Nuez



<http://alice.epfl.ch/>



